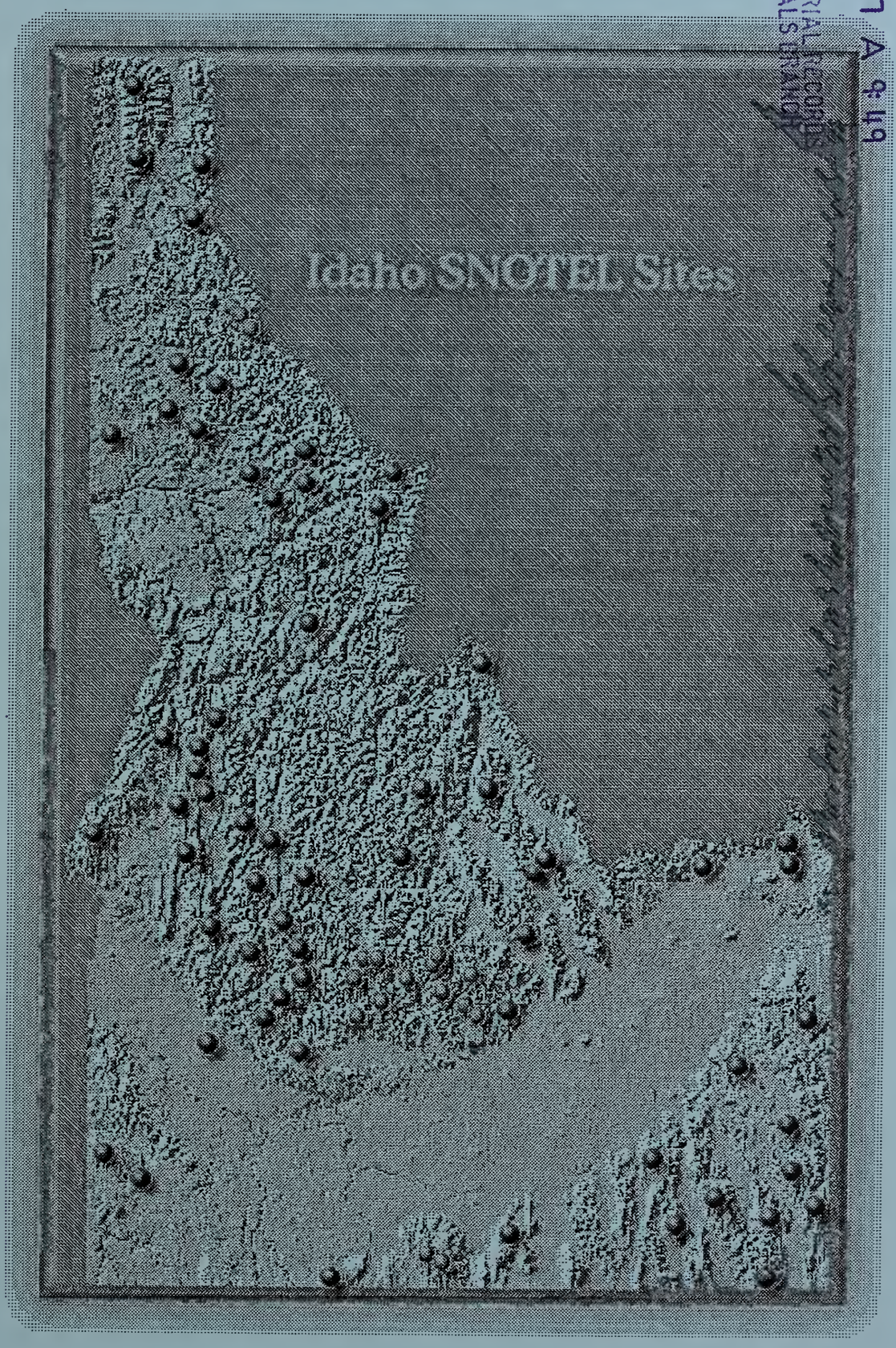
NRCS

United States Department of Agriculture
Natural Resources Conservation Service

Idaho Water Supply Outlook Report
April 1, 2002



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How forecasts are made

Most of the annual streamflow in the western United States originates as snowfall that has accumulated in the mountains during the winter and early spring. As the snowpack accumulates, hydrologists estimate the runoff that will occur when it melts. Measurements of snow water equivalent at selected manual snow courses and automated SNOTEL sites, along with precipitation, antecedent streamflow, and indices of the El Niño / Southern Oscillation are used in computerized statistical and simulation models to prepare runoff forecasts. These forecasts are coordinated between hydrologists in the Natural Resources Conservation Service and the National Weather Service. Unless otherwise specified, all forecasts are for flows that would occur naturally without any upstream influences.

Forecasts of any kind, of course, are not perfect. Streamflow forecast uncertainty arises from three primary sources: (1) uncertain knowledge of future weather conditions, (2) uncertainty in the forecasting procedure, and (3) errors in the data. The forecast, therefore, must be interpreted not as a single value but rather as a range of values with specific probabilities of occurrence. The middle of the range is expressed by the 50% exceedance probability forecast, for which there is a 50% chance that the actual flow will be above, and a 50% chance that the actual flow will be below, this value. To describe the expected range around this 50% value, four other forecasts are provided, two smaller values (90% and 70% exceedance probability) and two larger values (30%, and 10% exceedance probability). For example, there is a 90% chance that the actual flow will be more than the 90% exceedance probability forecast. The others can be interpreted similarly.

The wider the spread among these values, the more uncertain the forecast. As the season progresses, forecasts become more accurate, primarily because a greater portion of the future weather conditions become known; this is reflected by a narrowing of the range around the 50% exceedance probability forecast. Users should take this uncertainty into consideration when making operational decisions by selecting forecasts corresponding to the level of risk they are willing to assume about the amount of water to be expected. If users anticipate receiving a lesser supply of water, or if they wish to increase their chances of having an adequate supply of water for their operations, they may want to base their decisions on the 90% or 70% exceedance probability forecasts, or something in between. On the other hand, if users are concerned about receiving too much water (for example, threat of flooding), they may want to base their decisions on the 30% or 10% exceedance probability forecasts, or something in between. Regardless of the forecast value users choose for operations, they should be prepared to deal with either more or less water. (Users should remember that even if the 90% exceedance probability forecast is used, there is still a 10% chance of receiving less than this amount.) By using the exceedance probability information, users can easily determine the chances of receiving more or less water.

IDAHO WATER SUPPLY OUTLOOK REPORT

April 1, 2002

SUMMARY

With peak snow water content levels occurring from late March to mid-April, the northern third of the state is looking good with snowpacks and streamflow forecasts around 120% of average. The west-central and southwestern third is looking okay with snowpacks and streamflow projections near normal. The central, eastern and southern areas are below par with snowpacks at only 75-85% of average. If this were a baseball game, we're in extra innings to see how the water supply picture closes. Above normal precipitation is needed during the next two months in eastern Idaho to provide additional streamflow, reduce initial irrigation demand and extend limited water supplies. Rain during the melt season will increase streams rapidly, especially in low elevations that still have a good snowpack. Below normal spring precipitation across southern Idaho (as in the past two springs) will only result in observed streamflow levels below the "Most Probable" or 50% Exceedance Forecasts. Water users should monitor conditions closely during the next two months. Spring precipitation can make or break streamflow forecasts, especially in southern and eastern Idaho.

SNOWPACK

With no January thaw this year, low elevation snow stayed in place until the recent warm temperatures. Low elevation basins with a snowpack between 130-200% of average, in increasing order, include St. Joe, Coeur d'Alene, Owyhee, Rathdrum, Palouse and Hayden Lake. Overall, the Panhandle Region and Clearwater basin snowpacks are 120% of average, 2-3 times the amounts of last year. Snowpacks are 87% of average in the Salmon basin, near normal in the west-central mountains and high desert streams of south central Idaho, and 75-85% in central and eastern Idaho.

PRECIPITATION

The precipitation pattern has remained the same for the past three months -- with the greatest amounts in the Panhandle Region and Clearwater basin and least amounts in the Bear River basin. The Salmon basin has been the dividing line for the third consecutive month with above normal March precipitation to the north, 150% of average, and normal or less to the south. The Bear River basin received the least in the state during March at only 75% of average. Water year to date precipitation increased to 122% of average in the Panhandle Region and to 117% in the Clearwater basin. The lowest water year totals are in the Bear River basin at 80% of average. Across central Idaho, water year to date totals range from 85-96% of average. The 30-day (April) and 60-day (April-June) extended precipitation outlook for Idaho provided by the National Weather Service is for equal chance of above normal, normal, or below normal precipitation to occur (33 percent chance). The 30-day extended temperature is also for equal chances while the 90-day outlook is for slightly above normal temperatures for the western half of Idaho.

RESERVOIRS

Storage in lakes and reservoirs vary across the state. Here is a synopsis of current conditions and possible scenarios:

- **Panhandle Region, Clearwater basin lakes and reservoirs**: Will fill and remain full for an extended period. High streamflows and peak flows are possible on Coeur d'Alene and St. Joe rivers, especially if rain occurs during the early stages of the snow melt season.
- **Payette reservoir system:** 48% full, 80% of average. Will fill and provide adequate irrigation and recreation flows.
- **Boise reservoir system:** 46% full, 75% of average. Lucky Peak and Arrowrock will fill, Anderson may fill to 85% full. Water supplies will be adequate for irrigation and tubing on the Boise River. Expect a short boating season on South Fork Boise River.

- **Magic Reservoir:** 14% full, 24% of average. Inflows are just starting to increase with Camas Creek snow melting. Irrigation shortages are expected but supplies should be better than last year.
- **Little Wood Reservoir:** 51% full, 79% of average. Irrigation supplies will be adequate.
- **Mackay Reservoir:** 57% full, 78% of average. Irrigation shortages are expected.
- **Little Lost, Mud Lake area:** Irrigation supplies will be marginally adequate at best.
- **Jackson Lake:** 20% full, 34% of average. Not expected to fill unless April-June precipitation is 2-3 times normal.
- **Palisades Reservoir:** 41% full, 61% of average. May reach its peak by mid- to late May or in June if the spring is wet and irrigation demand is low.
- **American Falls Reservoir:** 82% full, 95% of average. May not completely fill unless spring is wet, which means low irrigation demand.
- **Henrys Fork and mainstem Snake River** water users will experience irrigation shortages. Supplies may be similar to last year or less. Allotments may be in the half of normal range for some irrigators. Wet weather the next two months will make a big difference.
- **Blackfoot Reservoir:** 33% full, 51% of average. Irrigation shortages are expected.
- **Bear Lake:** 43% full, 66% of average. Irrigation shortages are expected.
- **Oakley Reservoir:** 23% full, 48% of average. Irrigation shortages are expected with supplies similar to last year.
- **Salmon Falls Reservoir:** 10% full, 27% of average. Irrigation shortages are expected but supplies should be better than last year.
- **Owyhee Reservoir:** 40% full, 48% of average. Irrigation supplies will be adequate. Peak streamflows may be high from above average low elevation snow.

Note: NRCS reports reservoir information in terms of usable volumes, which includes both active, inactive and in some cases dead storage. Other operators may report reservoir contents in different terms. For additional information, see the reservoir definitions in this report.

STREAMFLOW

The highest spring and summer streamflow forecasts in the state are in the Panhandle Region and Clearwater basin at 110-130% of average, an increase of 5-10 percentage points from last month. Streams in the Salmon and west-central mountains are forecast at just below normal amounts and decrease to 65-85% in the Wood and Lost basins. Henrys Fork and upper Snake River are forecast at 60-85% of average. Streamflow in the mid-Snake to Hells Canyon Dam are only expected to be 55-60% of average and then increase to 89% at the Snake River below Lower Granite Dam with the addition of the Clearwater River. The high desert streams south of the Snake River are forecast at 70% of average for Oakley Reservoir inflow to 105% for the Owyhee River. The lowest forecasts in the state are in the Bear River basin at 38% of average.

Future precipitation is not used as a variable in NRCS streamflow projections, however, the equations assume normal spring precipitation. Therefore, in order for the "Most Probable Forecast" values (50% Exceedance Forecast) to occur, normal spring precipitation is usually needed to produce the Most Probable Forecast values. If future spring precipitation is below normal, observed flows may be closer to the 90% or 70% Exceedance Forecasts. Similarly, if future precipitation is above normal, observed runoff may be closer to the 30% and 10% Exceedance Forecasts. Another unknown is soil moisture, which may account for several inches of snow melt water to fill these voids. Given these unknowns, water users should base their decision on the appropriate exceedance streamflow forecast to minimize their risk level.

RECREATION

Summer recreation activities look promising and much better than last year across northern and western Idaho. River runners can expect some potentially high peak flows and extended duration of high flows in the Clearwater and Panhandle streams. With below normal snowpacks in eastern Idaho, recreationists will see below normal streamflows and earlier drawdowns of reservoirs. The warm weather in early April started melting the low elevation snow and increased streams to above normal levels. The snowpack is twice last year on the Middle Fork Salmon River will help extend the river running season through July and possibly through August. Boise River tubers will see a long floating season without high flows. River runners on the South Fork Boise River will see a short floating season similar to last year due to low storage in Anderson Ranch Reservoir.

JOB INFORMATION

Idaho NRCS Snow Survey office will be hiring two Hydrologic Technicians at the GS-4 grade level this summer. Positions will be advertised in early April. Employment length is from mid-May through September. For more information contact Bill Patterson at 208-378-9906.

Utah NRCS Snow Survey office will be hiring two full time Hydrologists at the GS-5,7 -9 grade levels. Positions will be located in Salt Lake City. Positions are now being advertised and close April 25, 2002. For more information see USAJOBS at: http://www.usajobs.opm.gov/wfjic/jobs/IC1741.HTM or contact Sharon Jensen at 801-524-4576.

Colorado NRCS Snow Survey will be hiring three Physical Science Aids this summer. Grade levels at this time are undetermined, but expected to be at the GS-3 or GS-4 level. Positions will be advertised in April. Employment length is from mid-May through August or September. These positions are located in Lakewood, Colorado with extensive travel throughout Colorado, Arizona, New Mexico and Wyoming. For more information, contact Mike Gillespie at (720) 544-2852.

Positions and additional work are being filled and accomplished as a result of a budget increase for the West-wide NRCS Snow Survey Program.

SNOW SURVEY SUMMER WORK SCHEDULE

Idaho NRCS Snow Survey staff will be installing 20 additional snow depth sensors this summer, bringing the total to about 60 of the 117 SNOTEL maintained by the Boise Snow Survey Office. In addition, 10 snow pillows will be replaced, leveled or updated this summer. We are also considering installing soil moisture sensors at possibly four SNOTEL sites through the state. Current sites with soil moisture include Moscow Mountain, Long Valley, Bogus Basin, Atlanta Summit, Jackson Peak, Smiley Mountain, Touchet (WA), Sourdough (WA) and Big Sandy (WY).

IDAHO SURFACE WATER SUPPLY INDEX (SWSI) As of April 1, 2002

The Surface Water Supply Index (SWSI) is a predictive indicator of surface water availability within a watershed for the spring and summer water use season. The index is calculated by combining pre-runoff reservoir storage (carryover) with forecasts of spring and summer streamflow. SWSI values are scaled from +4.1 (abundant supply) to -4.1 (extremely dry), with a value of zero indicating a median water supply as compared to historical occurrences.

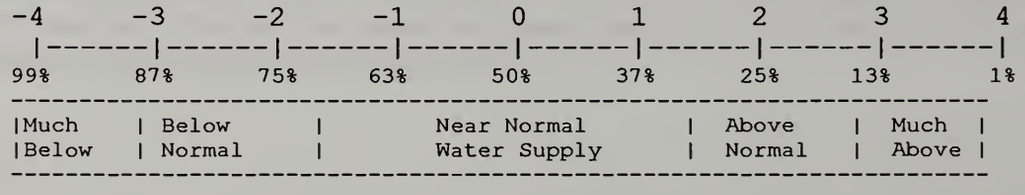
SWSI values are published January through May and provide a more comprehensive outlook of water availability than either streamflow forecasts or reservoir storage figures alone. The SWSI index allows comparison of water availability between basins for drought or flood severity analysis. Threshold SWSI values have been established for most basins to indicate the potential for agricultural water shortages.

The following agencies and cooperators provide assistance in the preparation of the Surface Water Supply Index for Idaho:

US National Weather Service
US Bureau of Reclamation
Idaho Water Users Association
US Army Corps of Engineers
Idaho Dept. of Water Resources
PacifiCorp

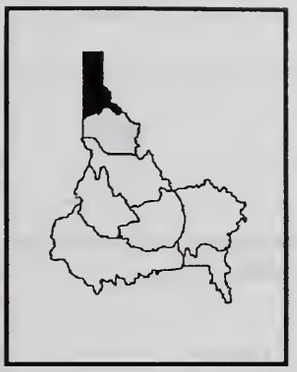
BASIN or REGION	*SWSI Value*	*Most Recent Year With Similar SWSI Value*	*Agricultural Water Supply Shortage May Occur When SWSI is Less Than*
PANHANDLE	2.4	1999	NA
CLEARWATER	1.9	1996	NA
SALMON	-1.0	1985/95	NA
WEISER	0.2	1986	NA
PAYETTE	-1.0	2000	NA
BOISE	-1.5	1985	-2.6
BIG WOOD	-2.5	1987/89	-1.4
LITTLE WOOD	-1.5	1989	-2.6
BIG LOST	-1.6	1987	-0.8
LITTLE LOST	-0.8	1990/96	0.0
HENRYS FORK	-1.5	1991	-3.3
SNAKE (AMERICAN FALLS)	-2.9	1990/94	-2.0
OAKLEY	-1.4	1989	0.0
SALMON FALLS	-1.3	1981	0.0
BRUNEAU	-1.3	1989	NA
OWYHEE	-0.9		NA
BEAR RIVER	-3.4	1990/91	-3.8

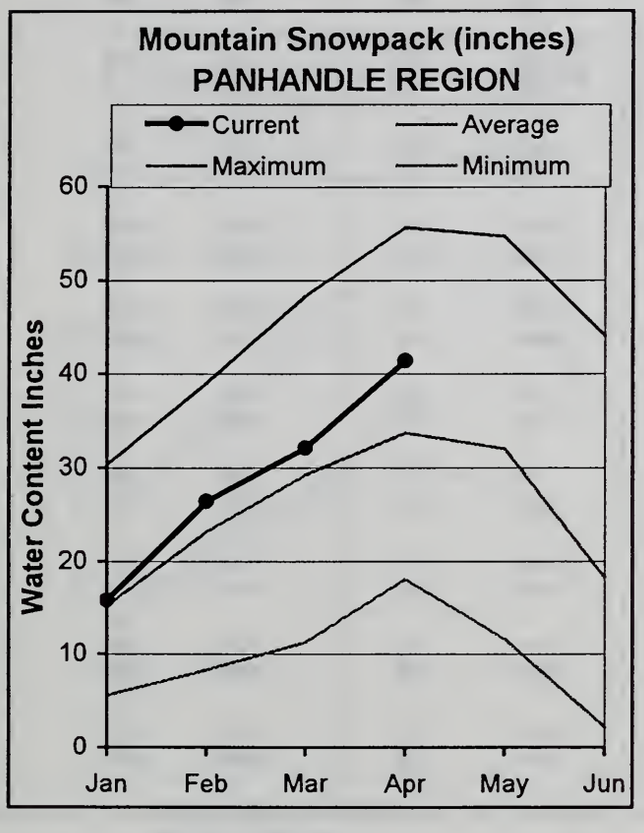
SWSI SCALE, PERCENT CHANCE OF EXCEEDANCE, AND INTERPRETATION

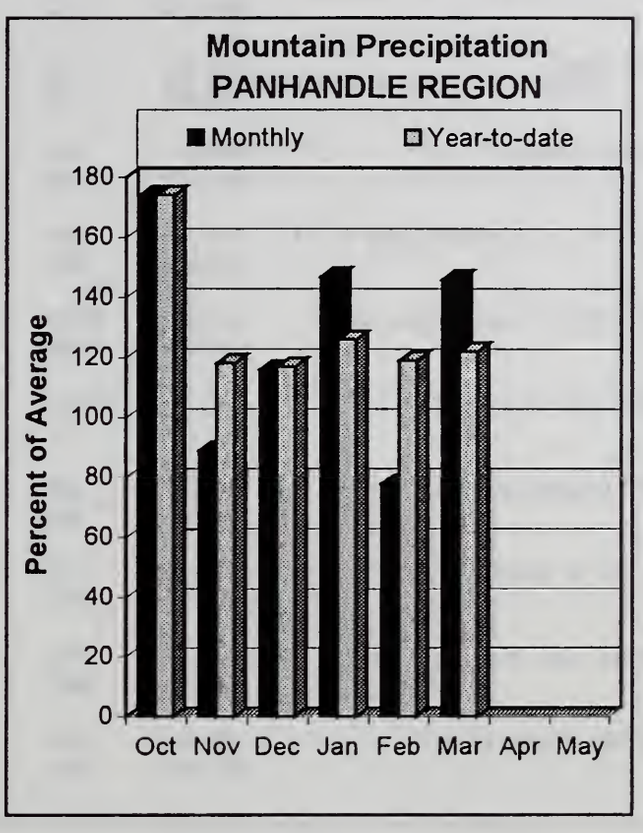


Note: The Percent Chance of Exceedance is an indicator of how often a range of SWSI values might be expected to occur. Each SWSI unit represents about 12% of the historical occurrences. As an example of interpreting the above scale, the SWSI can be expected to be greater than -3.0, 87% of the time and less than -3.0, 13% of the time. Half the time, the SWSI will be below and half the time above a value of zero. The interval between -1.5 and +1.5 described as "Near Normal Water Supply," represents three SWSI units and would be expected to occur about one-third (36%) of the time.

PANHANDLE REGION
APRIL 1, 2002







WATER SUPPLY OUTLOOK

For the third consecutive month, the Panhandle Region and Clearwater basin received the highest monthly precipitation in the state, about 150% of average. The Panhandle Region hosts the highest water year to date precipitation in the state at 122% of average. Precipitation for this water year is 2.5 times the amount that fell last year! A January thaw or winter rain event never occurred this year. As a result, low to mid-elevation snowpacks are well above average and can melt rapidly with warm temperatures or rain the next few weeks and produce rapid rises in streams. Fourth of July Summit snow course at 3,200 feet in the Coeur d'Alene basin has 16.5 inches of snow water, the most since 1964! Average for April 1 is 5.7 inches; last year there was 4.6 inches. Snowpack percentages are 196% of average in Hayden Lake; 183% in Palouse, 142% in Spokane, 112% in Kootenai and Moyie, 103% in Priest, and 106% for the 108 sites in the large Pend Oreille basin. Bear Mountain SNOTEL site is 130% of average and has 75 inches of snow water compared to 25 inches a year ago. Average is 58 inches. Pend Oreille Lake storage is 72% of average, Coeur d'Alene and Priest lakes are 82%. Streamflow forecasts increased from last month and remain the highest in state at 110-130% of average. Water supplies will be more than adequate to fill the numerous lakes of northern Idaho. Citizens in low lying areas can expect rapid increases in streams when the mid-elevation snow melts. The above average high elevation snow will keep rivers above average through July or longer.

CLEARWATER RIVER BASIN
Streamflow Forecasts - April 1, 2002

Forecast Point	Forecast Period	<<====== Drier ====== Future Conditions ======= Wetter =====>> Chance Of Exceeding * 90% (1000AF)	70% (1000AF)	50% (Most Probable) (1000AF)	(% AVG.)	30% (1000AF)	10% (1000AF)	30-Yr Avg. (1000AF)
SELWAY near Lowell	APR-JUL	1892	2037	2136	104	2235	2380	2062
	APR-SEP	1984	2141	2248	104	2355	2512	2170
LOCHSA near Lowell	APR-JUL	1403	1510	1583	104	1656	1763	1530
	APR-SEP	1477	1589	1665	104	1741	1853	1609
DWORSHAK RESV INFLOW (1,2)	APR-JUL	2492	2876	3050	116	3224	3608	2635
	APR-SEP	2656	3051	3230	115	3409	3804	2799
CLEARWATER at Orofino (1)	APR-JUL	4386	4925	5170	111	5415	5954	4645
	APR-SEP	4588	5167	5430	111	5693	6272	4900
CLEARWATER at Spalding (1,2)	APR-JUL	6991	7953	8390	113	8827	9789	7435
	APR-SEP	7355	8362	8820	112	9278	10285	7850

CLEARWATER RIVER BASIN
Reservoir Storage (1000 AF) - End of March

Reservoir	Usable Capacity	*** Usable Storage *** This Year	Last Year	Avg
DWORSHAK	3468.0	2175.8	2139.9	2205.4

CLEARWATER RIVER BASIN
Watershed Snowpack Analysis - April 1, 2002

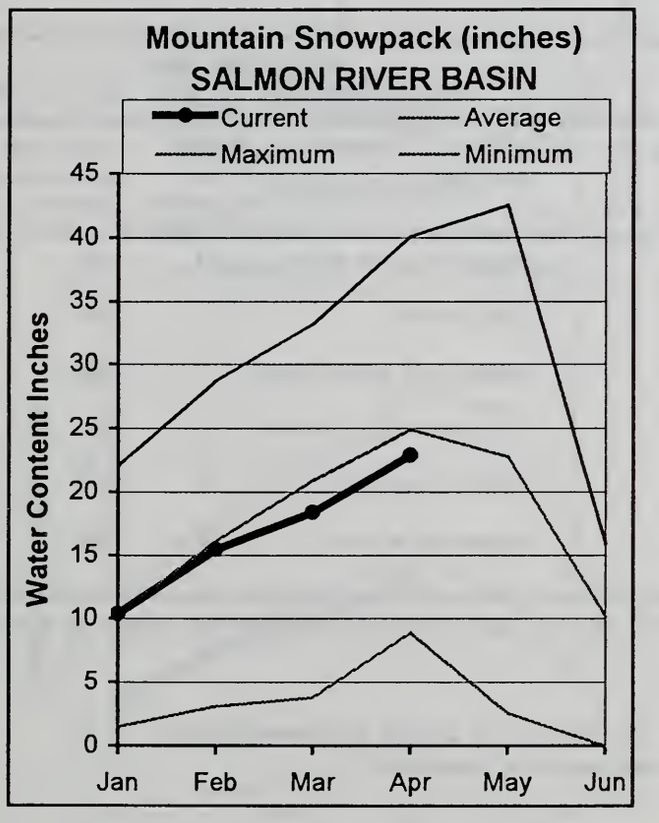
Watershed	Number of Data Sites	This Year as % of Last Yr	Average
North Fork Clearwater	9	224	122
Lochsa River	4	224	108
Selway River	6	184	106
Clearwater Basin Total	19	214	117

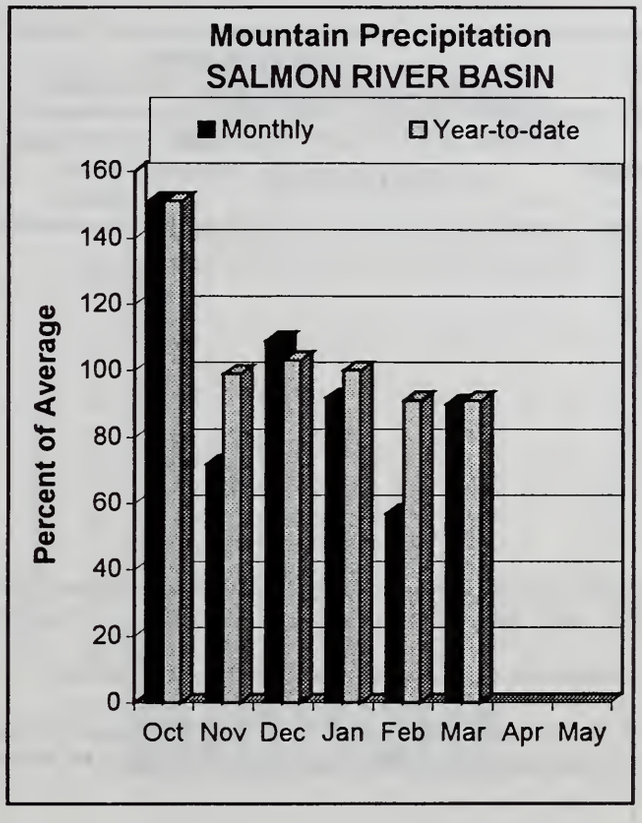
* 90%, 70%, 30%, and 10% chances of exceeding are the probabilities that the actual flow will exceed the volumes in the table.

The average is computed for the 1971-2000 base period.

(1) - The values listed under the 10% and 90% Chance of Exceeding are actually 5% and 95% exceedance levels.
(2) - The value is natural flow - actual flow may be affected by upstream water management.

SALMON RIVER BASIN
APRIL 1, 2002





WATER SUPPLY OUTLOOK

The Salmon basin was the dividing line for the third consecutive month with above normal March precipitation to the north and normal or less to the south. March precipitation in the Salmon basin ranged from 50-110% of average. Overall, March precipitation was 90% of average and is 91% for the water year. Snowpack percentages are the highest at 108% of average in the low elevation Little Salmon basins, decreasing to 90% in the South Fork Salmon basin, 84% in the Middle Fork Salmon, 82% in the Salmon basin above Salmon, and only 73% in the Lemhi basin. Overall, the Salmon River basin snowpack is 87% of average. The April-September streamflow forecast for the Salmon River at Salmon is for 83% of average. The Salmon River at White Bird is forecast at 84% of average. A cool wet spring will help extend the boating season through the summer, but floating the Middle Fork Salmon River in July is looking much better this year than last.

SALMON RIVER BASIN
Streamflow Forecasts - April 1, 2002

Forecast Point	Forecast Period	<<====== Drier ===== Future Conditions ======= Wetter =====>> Chance Of Exceeding * 90% (1000AF)	70% (1000AF)	50% (Most Probable) (1000AF)	(% AVG.)	30% (1000AF)	10% (1000AF)	30-Yr Avg. (1000AF)
SALMON at Salmon (1)	APR-JUL	542	658	710	83	762	878	857
	APR-SEP	633	762	820	82	878	1007	1000
SALMON at White Bird (1)	APR-JUL	3805	4579	4930	84	5281	6055	5851
	APR-SEP	4131	4990	5380	83	5770	6629	6482

SALMON RIVER BASIN
Reservoir Storage (1000 AF) - End of March

Reservoir	Usable Capacity	*** Usable Storage *** This Year	Last Year	Avg

SALMON RIVER BASIN
Watershed Snowpack Analysis - April 1, 2002

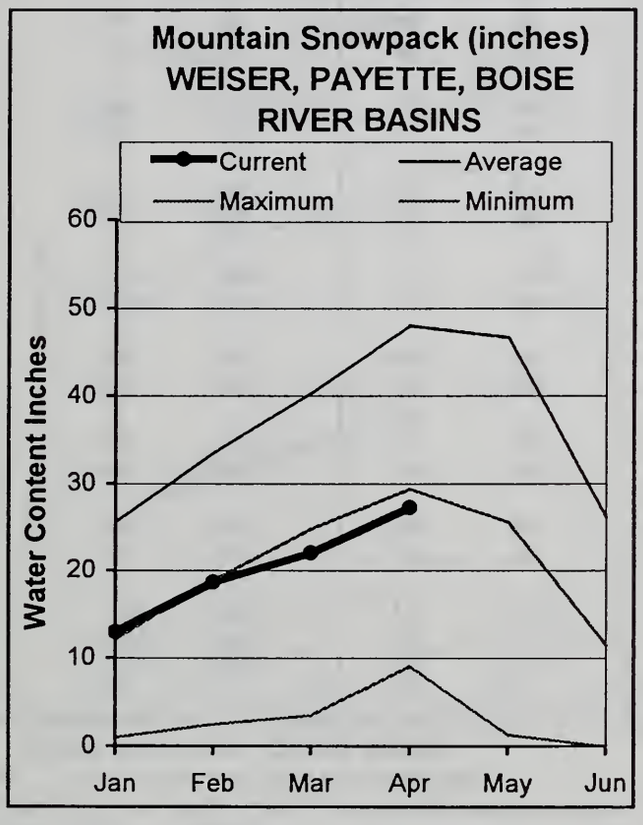
Watershed	Number of Data Sites	This Year as % of Last Yr	Average
Salmon River ab Salmon	11	164	82
Lemhi River	11	117	73
Middle Fork Salmon River	3	203	84
South Fork Salmon River	3	231	90
Little Salmon River	4	276	108
Salmon Basin Total	32	177	87

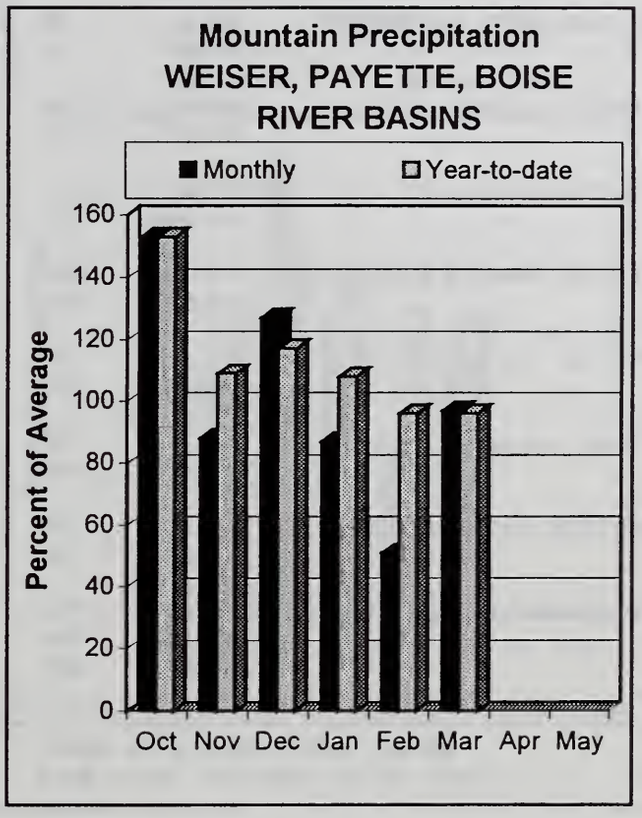
* 90%, 70%, 30%, and 10% chances of exceeding are the probabilities that the actual flow will exceed the volumes in the table.

The average is computed for the 1971-2000 base period.

(1) - The values listed under the 10% and 90% Chance of Exceeding are actually 5% and 95% exceedance levels.
(2) - The value is natural flow - actual flow may be affected by upstream water management.

WEISER, PAYETTE, BOISE RIVER BASINS APRIL 1, 2002





WATER SUPPLY OUTLOOK

March precipitation was 97% of average in these west-central mountains. Water year to precipitation is 96% of average. With no "January Thaw" this year, low elevation snowpacks are still above normal and are just starting to melt with the onset of warmer temperatures. Snowpacks on the low elevation drainages of Mann Creek, Weiser River and Mores Creek range from 129-110% of average, respectively. The snowpack on the North Fork Payette basin is normal, while the South Fork Payette basin is only 90% of average. The Boise basin snowpack as a whole is 98% of average. The snowpack in these west-central mountains is over twice as much as last year at this time. The Payette reservoir system at 48% full, 80% of average, will fill and provide adequate flows for irrigation and recreation. The Payette River near Horseshoe Bend is forecast at 90% of average. The Boise reservoir system is 46% full, 75% of average. Lucky Peak and Arrowrock reservoirs will fill. Anderson Ranch Reservoir at only 18% of capacity is not projected to fill, but Anderson Ranch water rights will fill along with adequate irrigation supplies for the other Boise River irrigators. The Boise River near Twin Springs and South Fork Boise River are forecast at 86% of average.

WEISER, PAYETTE, BOISE RIVER BASINS
Streamflow Forecasts - April 1, 2002

Forecast Point	Forecast Period	<<====== Drier ====== Future Conditions ======= Wetter ====>> Chance Of Exceeding * 90% (1000AF)	70% (1000AF)	50% (Most Probable) (1000AF)	(% AVG.)	30% (1000AF)	10% (1000AF)	30-Yr Avg. (1000AF)
WEISER near Weiser (1)	APR-SEP	217	336	390	93	444	563	420
SF PAYETTE at Lowman	APR-JUL	304	340	364	83	388	424	438
	APR-SEP	342	383	410	83	437	478	494
DEADWOOD RESERVOIR Inflow (1,2)	APR-JUL	96	112	119	89	126	142	134
	APR-SEP	104	121	128	90	135	152	142
LAKE FORK PAYETTE near McCall	APR-JUL	68	75	80	94	85	93	85
	APR-SEP	71	79	84	94	89	97	89
NF PAYETTE at Cascade (1,2)	APR-JUL	348	428	464	95	500	580	488
	APR-SEP	378	465	504	95	543	630	530
NF PAYETTE nr Banks (2)	APR-JUL	484	560	611	95	662	738	643
	APR-SEP	517	600	656	95	712	795	690
PAYETTE nr Horseshoe Bend (1,2)	APR-JUL	1149	1357	1452	90	1547	1755	1610
	APR-SEP	1265	1496	1600	91	1704	1935	1755
BOISE near Twin Springs (1)	APR-JUL	444	513	545	86	577	646	636
	APR-SEP	490	566	600	87	634	710	691
SF BOISE at Anderson Ranch Dam (1,2)	APR-JUL	381	439	465	86	491	549	542
	APR-SEP	403	464	492	85	520	581	579
MORES CREEK near Arrowrock Dam	APR-JUL	112	127	138	105	149	164	131
	APR-SEP	117	133	144	105	155	171	137
BOISE near Boise (1,2)	APR-JUN	933	1048	1100	87	1152	1267	1258
	APR-JUL	1014	1165	1234	87	1303	1454	1414
	APR-SEP	1080	1242	1315	86	1388	1550	1526

WEISER, PAYETTE, BOISE RIVER BASINS
Reservoir Storage (1000 AF) - End of March

Reservoir	Usable Capacity	*** Usable Storage *** This Year	Last Year	Avg
MANN CREEK	11.1	8.3	5.3	8.8
CASCADE	693.2	359.6	434.9	428.8
DEADWOOD	164.0	54.5	95.4	91.6
ANDERSON RANCH	450.2	81.9	284.9	262.8
ARROWROCK	272.2	242.5	175.5	204.5
LUCKY PEAK	293.2	147.5	159.0	162.6
LAKE LOWELL (DEER FLAT)	165.2	81.4	95.2	126.9

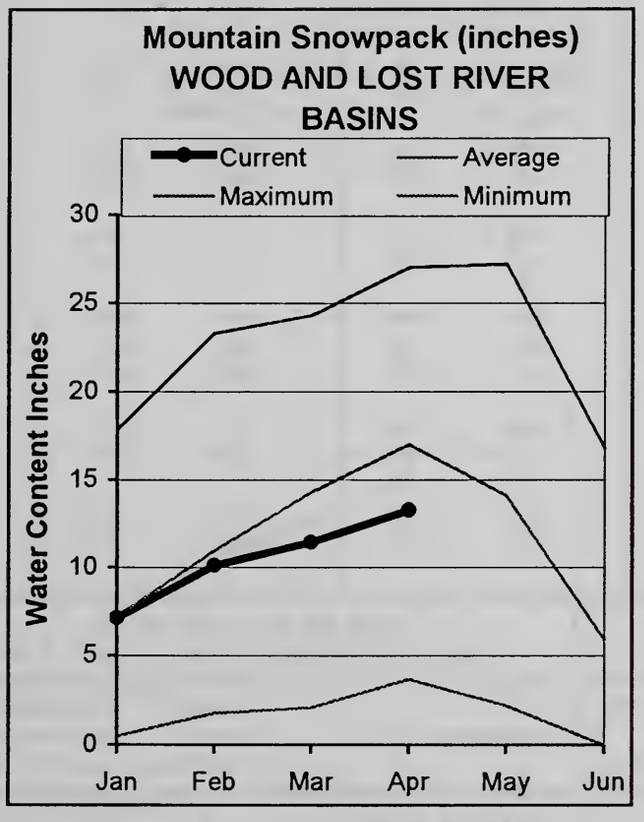
WEISER, PAYETTE, BOISE RIVER BASINS
Watershed Snowpack Analysis - April 1, 2002

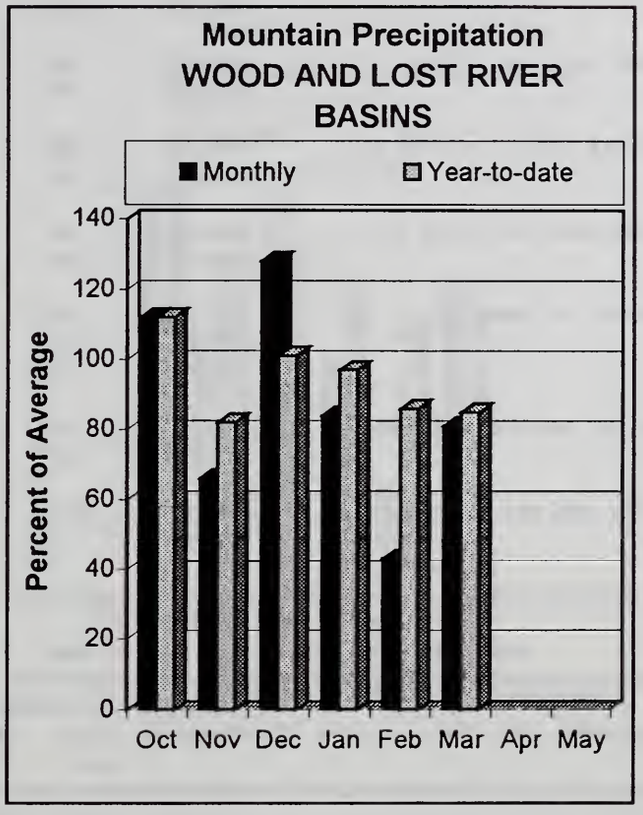
Watershed	Number of Data Sites	This Year as % of Last Yr	Average
Mann Creek	2	266	129
Weiser River	5	269	116
North Fork Payette	8	247	100
South Fork Payette	5	215	90
Payette Basin Total	14	229	97
Middle & North Fork Boise	6	198	89
South Fork Boise River	9	218	95
Mores Creek	5	234	110
Boise Basin Total	16	226	98
Canyon Creek	2	419	132

* 90%, 70%, 30%, and 10% chances of exceeding are the probabilities that the actual flow will exceed the volumes in the table.

The average is computed for the 1971-2000 base period.
(1) - The values listed under the 10% and 90% Chance of Exceeding are actually 5% and 95% exceedance levels.
(2) - The value is natural flow - actual flow may be affected by upstream water management.

WOOD and LOST RIVER BASINS
APRIL 1, 2002





WATER SUPPLY OUTLOOK

March precipitation was 81% of average in these central Idaho basins. The lowest amounts fell in the Mud Lake, Birch Creek and Little Lost basins at only about half of normal. This is better than last month, but a cool wet spring is needed to delay the start of irrigation and extend water supplies for the Big Wood, Big Lost and Little Lost irrigators where irrigation shortages are expected. Little Wood irrigators should have an adequate irrigation supply. The lowest snowpacks are 73-78% of average in the Little Wood, Big Lost, Little Lost and Birch-Medicine Lodge basins. Snowpacks in Camas-Beaver Creeks and headwaters of the Big Wood River are 82% of average. The Camas Creek snowpack was near normal on April 1, but won't last long with snow melting and the stream rising. Magic Reservoir storage is just starting to increase in storage and is 14% full. Mackay and Little Wood reservoirs are about 55% full, 78% of average. The Most Probable streamflow forecasts are for 64% of average for the Big Wood River below Magic Reservoir, 72% for Little Wood River, 77% for the Big Lost River and 85% for the Little Lost River. Water users will want to remain in contact with their irrigation districts for more specific information.

WOOD AND LOST RIVER BASINS
Streamflow Forecasts - April 1, 2002

Forecast Point	Forecast Period	<<====== Drier ====== Future Conditions ======= Wetter =====>> Chance Of Exceeding * 90% (1000AF)	70% (1000AF)	50% (Most Probable) (1000AF)	(% AVG.)	30% (1000AF)	10% (1000AF)	30-Yr Avg. (1000AF)
BIG WOOD at Hailey (1)	APR-JUL	129	171	192	75	214	268	256
	APR-SEP	144	191	215	74	240	300	289
BIG WOOD near Bellevue	APR-JUL	78	108	132	70	158	200	188
	APR-SEP	85	117	141	71	168	211	200
CAMAS CREEK near Blaine	APR-JUL	58	72	83	84	94	112	99
	APR-SEP	60	74	85	84	97	115	101
BIG WOOD below Magic Dam (2)	APR-JUL	100	151	186	64	221	272	291
	APR-SEP	102	156	192	63	228	282	307
LITTLE WOOD near Carey (2)	APR-JUL	42	54	63	72	72	84	87
	APR-SEP	44	58	67	71	76	90	94
BIG LOST at Howell Ranch	APR-JUN	87	104	115	86	126	143	134
	APR-JUL	106	129	144	84	159	182	172
	APR-SEP	121	146	164	83	182	207	197
BIG LOST below Mackay Reservoir (2)	APR-JUL	70	93	109	77	125	148	142
	APR-SEP	89	115	133	77	151	177	173
LITTLE LOST blw Wet Creek	APR-JUL	19.3	24	26	85	29	34	31
	APR-SEP	23	29	33	85	37	43	39

WOOD AND LOST RIVER BASINS
Reservoir Storage (1000 AF) - End of March

Reservoir	Usable Capacity	*** Usable Storage *** This Year	Last Year	Avg
MAGIC	191.5	26.1	65.4	107.1
LITTLE WOOD	30.0	15.3	23.1	19.4
MACKAY	44.4	25.4	27.5	32.7

WOOD AND LOST RIVER BASINS
Watershed Snowpack Analysis - April 1, 2002

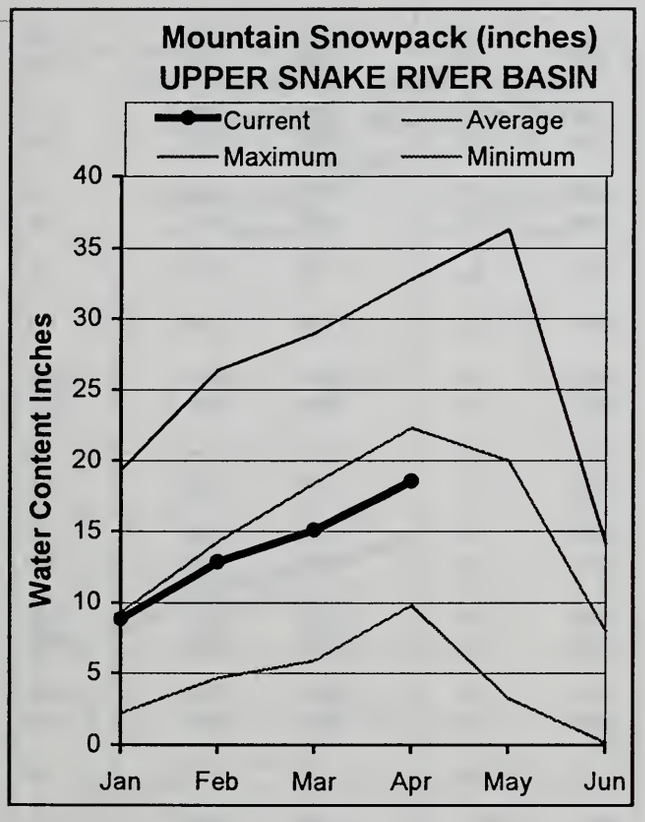
Watershed	Number of Data Sites	This Year as % of Last Yr	Average
Big Wood ab Hailey	8	169	81
Camas Creek	5	461	105
Big Wood Basin Total	12	207	87
Little Wood River	5	170	73
Fish Creek	3	383	91
Big Lost River	7	158	78
Little Lost River	4	146	73
Birch-Medicine Lodge Cree	4	116	74
Camas-Beaver Creeks	4	168	82

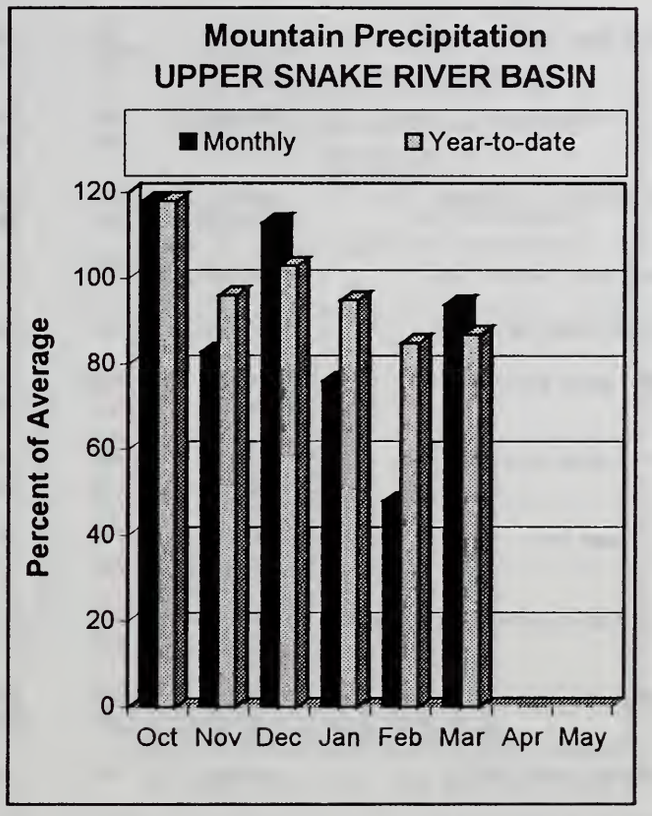
* 90%, 70%, 30%, and 10% chances of exceeding are the probabilities that the actual flow will exceed the volumes in the table.

The average is computed for the 1971-2000 base period.

(1) - The values listed under the 10% and 90% Chance of Exceeding are actually 5% and 95% exceedance levels.
(2) - The value is natural flow - actual flow may be affected by upstream water management.

UPPER SNAKE RIVER BASIN
APRIL 1, 2002





WATER SUPPLY OUTLOOK

March brought some improvements in the upper Snake basins, but not enough. March precipitation as measured by the 28 SNOTEL stations across this region was 94% of average. Monthly precipitation percentages varied, with the least amounts in the 65% of average range along the southern edge of the Snake River and Bear River basins. The highest amounts were about 130% of average in the National Parks. Snowpack percentages increased 1-8 percentage points from a month ago with the biggest gains in the Snake headwaters above Jackson and Gros Ventre basins. The Snake headwaters, Henrys Fork and Portneuf basins are now about 85% of average. The lowest snowpacks are about 77% of average in the Blackfoot, Teton Greys and Salt basins. Overall, the snowpack for the Snake basin above Palisades Reservoir and American Falls Reservoir is 80% of average, an increase of 3-5 percentage points from last month. The snowpack is one and half times what it was last year, but not where we would want it following a drought year that left many reservoirs nearly empty. The combined storage for the 8 major reservoirs is 53% full, 73% of average. This is about 1 million acre-feet less than a year ago. The Snake River near Heise is forecast at 76% of average. Blackfoot Reservoir is 33% full, 51% of average and has 100,000 acre-feet less than last year; inflow forecast is for 65% of average. Irrigation shortages are expected. Henrys Fork and mainstem Snake River water users may have a marginally adequate water supply similar to last year. Allotments may be in the half of normal range. Wet weather the next two months could make a big difference. Water users may want to plan for possible shortages to reduce their risk and remain in contact with their local irrigation districts for more specific information.

UPPER SNAKE RIVER BASIN
Streamflow Forecasts - April 1, 2002

Forecast Point	Forecast Period	<<= Drier = Future Conditions = Wetter =>> Chance Of Exceeding * 90% (1000AF)	70% (1000AF)	50% (Most Probable) (1000AF)	(% AVG.)	30% (1000AF)	10% (1000AF)	30-Yr Avg. (1000AF)
HENRYS FORK near Ashton (2)	APR-JUL	374	419	450	79	481	526	571
	APR-SEP	503	558	595	78	632	687	763
HENRYS FORK near Rexburg (2)	APR-JUL	784	922	1015	65	1108	1246	1559
	APR-SEP	1016	1173	1280	64	1387	1544	2013
FALLS near Squirrel (1,2)	APR-JUL	239	285	306	79	327	373	386
	APR-SEP	290	336	357	78	378	424	456
TETON near Driggs	APR-JUL	105	125	139	84	153	173	165
	APR-SEP	134	159	176	84	193	218	210
TETON near St. Anthony	APR-JUL	258	306	338	84	370	418	403
	APR-SEP	309	363	400	83	437	491	482
SNAKE near Moran (1,2)	APR-SEP	614	711	755	84	799	896	904
PACIFIC CREEK at Moran	APR-SEP	127	145	157	88	169	187	178
SNAKE above Palisades (2)	APR-JUL	1888	2020	2110	89	2200	2332	2370
	APR-SEP	2164	2325	2435	89	2545	2706	2735
GREYS above Palisades	APR-JUL	195	224	243	72	262	291	338
	APR-SEP	230	262	284	72	306	338	394
SALT near Etna	APR-JUL	179	219	246	72	273	313	342
	APR-SEP	224	271	302	72	333	380	419
PALISADES RESERVOIR INFLOW (1,2)	APR-JUL	2093	2418	2565	77	2712	3037	3331
	APR-SEP	2409	2781	2950	76	3119	3491	3875
SNAKE near Heise (2)	APR-JUL	2301	2541	2705	76	2869	3109	3561
	APR-SEP	2650	2930	3120	75	3310	3590	4159
BLACKFOOT RESV INFLOW	APR-JUN	44	64	78	65	92	112	120
SNAKE nr Blackfoot (1,2)	APR-JUL	2983	3648	3950	75	4252	4917	5262
	APR-SEP	3832	4566	4900	75	5234	5968	6538
PORTNEUF at Topaz	APR-JUL	34	42	48	59	54	62	81
	APR-SEP	43	52	59	59	66	75	100
AMERICAN FALLS RESV INFLOW (1,2)	APR-JUL	872	1613	1950	60	2287	3028	3242
	APR-SEP	835	1712	2110	60	2508	3385	3505

UPPER SNAKE RIVER BASIN
Reservoir Storage (1000 AF) - End of March

Reservoir	Usable Capacity	*** Usable Storage *** This Year	Last Year	Avg
HENRYS LAKE	90.4	57.3	87.6	85.5
ISLAND PARK	135.2	108.7	118.8	114.6
GRASSY LAKE	15.2	9.8	12.9	12.3
JACKSON LAKE	847.0	165.6	641.2	486.6
PALISADES	1400.0	577.4	773.0	941.5
RIRIE	80.5	32.6	47.1	41.6
BLACKFOOT	348.7	116.2	220.3	229.8
AMERICAN FALLS	1672.6	1366.1	1650.5	1443.2

UPPER SNAKE RIVER BASIN
Watershed Snowpack Analysis - April 1, 2002

Watershed	Number of Data Sites	This Year as % of Last Yr	Average
Henrys Fork-Falls River	12	171	86
Teton River	8	128	77
Henrys Fork above Rexburg	20	154	83
Snake above Jackson Lake	9	163	83
Gros Ventre River	4	135	85
Hoback River	6	132	81
Greys River	5	132	79
Salt River	5	137	78
Snake above Palisades	30	146	80
Willow Creek	7	157	81
Blackfoot River	5	183	76
Portneuf River	6	180	84
Snake abv American Falls	45	151	80

* 90%, 70%, 30%, and 10% chances of exceeding are the probabilities that the actual flow will exceed the volumes in the table. The average is computed for the 1971-2000 base period.
(1) - The values listed under the 10% and 90% Chance of Exceeding are actually 5% and 95% exceedance levels.
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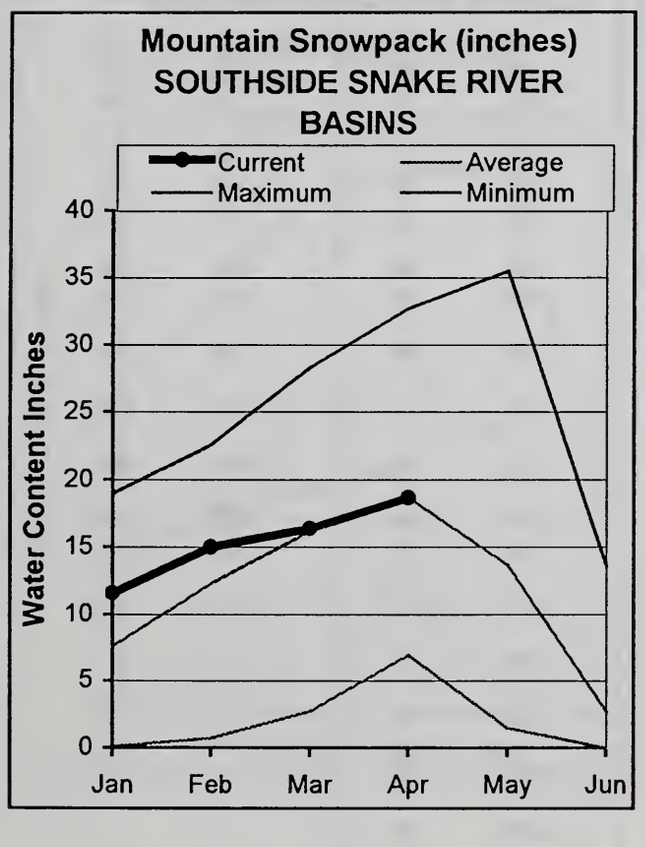
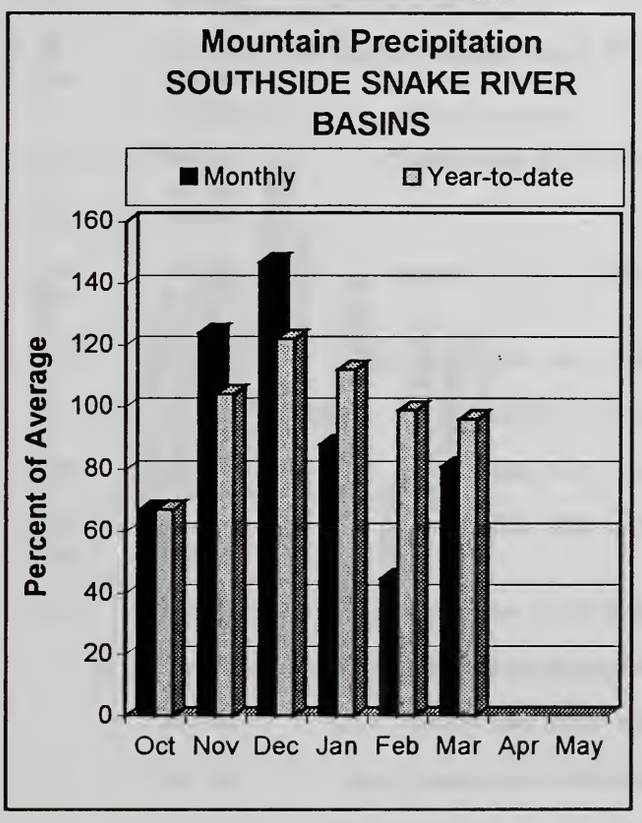
SOUTHSIDE SNAKE RIVER BASINS APRIL 1, 2002





WATER SUPPLY OUTLOOK

March precipitation ranged from half of normal at some northern Nevada SNOTEL sites to near normal in southern Idaho. Overall, the basin was 81% of average. Water year to date precipitation is just below normal at 96% of average. April 1 snowpack percentages are about the same as a month ago, holding around 105% of average for the Raft, Oakley, Salmon Falls and Bruneau basins. The low elevation Owyhee basin increased 10 percentage points from last month to 142% of average. This is based on data from the 15 aerial markers measured on or near the first of the month. Warm temperatures are starting to melt low to mid-elevation snow in these high desert basins. Now that the snow is ripe and melting, streams will rise rapidly with any additional precipitation; however with storage in Owyhee Reservoir at only 40% of capacity, it should be able to handle whatever run Mother Nature delivers. Brownlee Reservoir is near normal storage at 94% of average. Oakley Reservoir inflow is forecast at 70% of average. Water supply shortages are expected; users can expect a similar supply as last year. Salmon Falls Creek is forecast at 79% of average and shortages are expected due to low reservoir storage but supplies should be better than last year. Bruneau River is forecast at 85% of average and should provide a good boating season. Owyhee River is forecast at 107% of average. Streamflow rises may occur suddenly, especially with additional rain during the melt season. Irrigation supplies will be adequate. Snake River at Hells Canyon Dam is forecast at 56% of average and increases to 89% at the Snake River below Granite Dam as a result of Clearwater River contribution.

SOUTHSIDE SNAKE RIVER BASINS
Streamflow Forecasts - April 1, 2002

Forecast Point	Forecast Period	<<====== Drier ====== Future Conditions ======= Wetter =====>> Chance Of Exceeding * 90% (1000AF)	70% (1000AF)	50% (Most Probable) (1000AF)	(% AVG.)	30% (1000AF)	10% (1000AF)	30-Yr Avg. (1000AF)
OAKLEY RESV INFLOW	APR-JUL	13.1	17.2	20	70	24	29	29
	APR-SEP	15.1	19.6	23	72	27	33	32
OAKLEY RESV STORAGE	APR-30	19.8	22	23	56	24	26	41
	MAY-31	18.7	23	25	56	28	32	45
	JUN-30	13.3	18.9	23	57	27	32	40
SALMON FALLS CREEK nr San Jacinto	APR-JUN	39	50	59	79	68	83	75
	APR-JUL	41	54	63	79	73	90	80
	APR-SEP	44	56	66	79	76	93	84
SALMON FALLS RESV STORAGE	APR-30	30	34	37	42	40	44	89
	MAY-31	41	49	55	55	61	69	101
	JUN-30	23	36	45	48	54	67	95
BRUNEAU near Hot Spring	APR-JUL	113	148	175	85	204	250	206
	APR-SEP	120	157	185	86	215	264	216
OWYHEE near Gold Creek (2)	APR-JUL	13.8	20	25	100	30	39	25
OWYHEE nr Owyhee (2)	APR-JUL	49	69	83	101	97	117	82
OWYHEE near Rome	APR-JUL	267	340	395	105	454	548	378
OWYHEE RESV INFLOW (2)	APR-JUL	298	371	425	107	483	575	398
	APR-SEP	326	402	458	107	518	612	428
SUCCOR CK nr Jordan Valley	APR-JUL	8.0	11.8	14.4	119	17.0	21	12.1
SNAKE RIVER at King Hill (1,2)	APR-JUL			1780	59			3045
SNAKE RIVER near Murphy (1,2)	APR-JUL			1840	60			3092
SNAKE RIVER at Weiser (1,2)	APR-JUL			3170	55			5765
SNAKE RIVER at Hells Canyon Dam (1,2	APR-JUL			3660	56			6493
SNAKE blw Lower Granite Dam (1,2)	APR-JUL	14284	17665	19200	89	20735	24116	21550

SOUTHSIDE SNAKE RIVER BASINS
Reservoir Storage (1000 AF) - End of March

Reservoir	Usable Capacity	*** Usable Storage *** This Year	Last Year	Avg
OAKLEY	74.5	17.3	28.7	36.0
SALMON FALLS	182.6	18.9	25.6	70.2
WILDHORSE RESERVOIR	71.5	24.0	39.6	46.2
OWYHEE	715.0	285.2	421.0	593.0
BROWNLEE	1419.3	962.8	1371.4	1029.5

SOUTHSIDE SNAKE RIVER BASINS
Watershed Snowpack Analysis - April 1, 2002

Watershed	Number of Data Sites	This Year as % of Last Yr	Average
Raft River	6	182	106
Goose-Trapper Creeks	7	216	107
Salmon Falls Creek	8	189	106
Bruneau River	8	204	106
Owyhee Basin Total	20	375	142

* 90%, 70%, 30%, and 10% chances of exceeding are the probabilities that the actual flow will exceed the volumes in the table.

The average is computed for the 1971-2000 base period.

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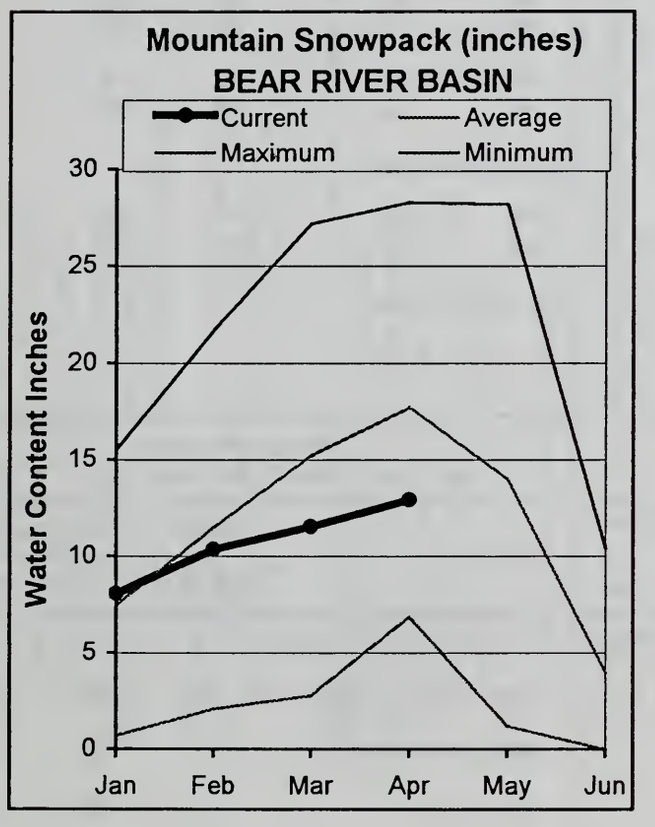
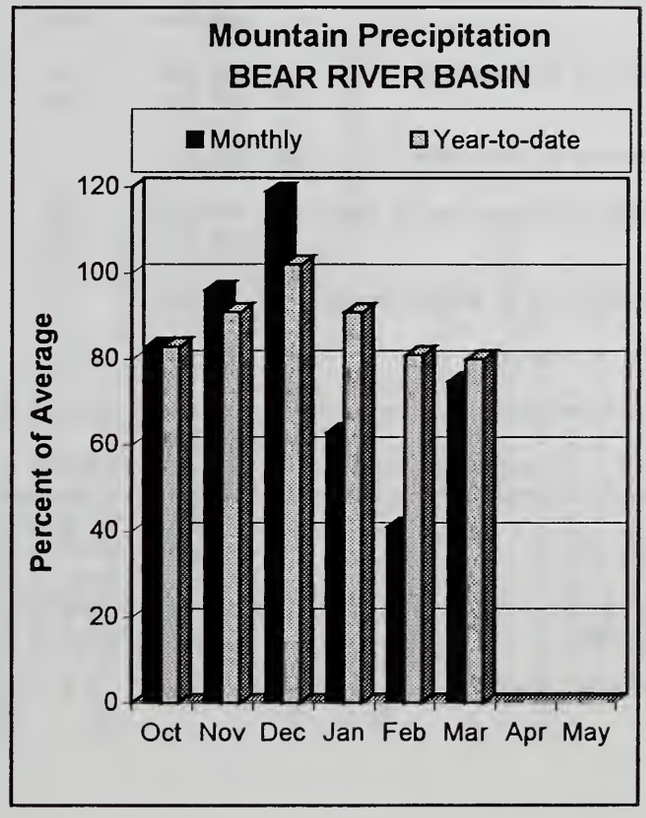
BEAR RIVER BASIN
APRIL 1, 2002





WATER SUPPLY OUTLOOK

For the third consecutive month, precipitation in the Bear River was the lowest in the state at 75% of average. Precipitation for the water year is 80% of average, also the lowest in the state. Snowpack percentages are about the same as a month ago at 70-80% of average as a result of cool temperatures and the snow just starting to melt. A cool, wet spring is needed to provide additional moisture, delay the start of irrigation, and extend limited water supplies. Bear Lake storage is about 300,000 acre-feet less than last year. The better news is that this year's snow is about 1.5 times what it was last year for the basin as a whole, even though it may still not be enough. Trial Lake SNOTEL site at 9,960 feet in the headwaters of the Bear River in Utah has 17.0 of snow water. Average is 25.3 inches. Last year there was 14.3 inches on April 1. A soil moisture deficit still exists from last fall. If the past three months precipitation is a pattern for future spring precipitation, water users should plan accordingly and look at using a lesser probability forecast. Storage in Bear Lake and Montpelier Reservoir are about 65% of average. Streamflow forecasts decreased some from last month. Bear River below Stewart Dam is forecast at only 38% of average. Water supplies shortages are expected; the degree of shortages depends upon spring precipitation and how much snowmelt actually makes it to the rivers and reservoir. Water users should keep in contact with their local irrigation districts for more specific information.

BEAR RIVER BASIN
Streamflow Forecasts - April 1, 2002

Forecast Point	Forecast Period	<<== Drier == Future Conditions == Wetter ==>> Chance Of Exceeding * 90% (1000AF)	70% (1000AF)	50% (Most Probable) (1000AF)	(% AVG.)	30% (1000AF)	10% (1000AF)	30-Yr Avg. (1000AF)
Bear R nr UT-WY State Line	APR-SEP	60	70	77	62	85	98	125
BEAR R nr Woodruff, UT	APR-SEP	55	75	93	60	115	156	154
BEAR R nr Randolph, UT	APR-JUL	7.0	36	62	54	88	127	115
	APR-SEP	10.0	38	67	54	96	140	125
SMITHS FK nr Border, WY	APR-JUL	31	49	55	54	62	79	102
	APR-SEP	46	55	62	53	70	83	118
THOMAS FK nr WY-ID State Line (Disc.	APR-JUL			Much Below Average				33
BEAR R blw Stewart Dam nr Montpelier	APR-JUL	18.0	73	110	38	147	202	288
	APR-SEP	17.0	79	122	37	165	227	327
MONTPELIER CK nr Montpelier (Disc)(2	APR-JUL			Much Below Average				12.2
CUB R nr Preston	APR-JUL			Much Below Average				47

BEAR RIVER BASIN
Reservoir Storage (1000 AF) - End of March

Reservoir	Usable Capacity	*** Usable Storage *** This Year	Last Year	Avg
BEAR LAKE	1421.0	605.5	911.1	923.8
MONTPELIER CREEK	4.0	1.0	1.7	1.7

BEAR RIVER BASIN
Watershed Snowpack Analysis - April 1, 2002

Watershed	Number of Data Sites	This Year as % of Last Yr	Average
Smiths & Thomas Forks	4	126	75
Bear River ab WY-ID line	14	137	74
Montpelier Creek	2	137	68
Mink Creek	4	183	80
Cub River	3	195	81
Bear River ab ID-UT line	25	153	75
Malad River	3	292	77

* 90%, 70%, 30%, and 10% chances of exceeding are the probabilities that the actual flow will exceed the volumes in the table.

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(2) - The value is natural flow - actual flow may be affected by upstream water management.

Streamflow Adjustment List For All Forecasts Published In Idaho Basin Outlook Report Streamflow forecasts are projections of runoff volumes that would have occurred naturally without influences from upstream reservoirs or diversions. These values are referred to as natural or adjusted flows. To make these adjustments, changes in reservoir storage, diversions, and inter-basin transfers are added or subtracted from the observed (actual) streamflow volumes. The following list documents the adjustments made to each forecast point in this report. (Revised 12/2000).

Panhandle River Basins

KOOTENAI R AT LEONIA, ID
+ LAKE KOOCANUSA (STORAGE CHANGE)

BOUNDARY CREEK NEAR PORTHILL, ID – No Corrections

MOYIE RIVER AT EASTPORT, ID – No Corrections

SMITH CREEK NEAR PORTHILL, ID – No Corrections

CLARK FORK AT WHITEHORSE RAPIDS, ID
+ HUNGRY HORSE (STORAGE CHANGE)
+ FLATHEAD LAKE (STORAGE CHANGE)
+ NOXON RAPIDS RESV (STORAGE CHANGE)

PEND OREILLE LAKE INFLOW, ID
+ PEND OREILLE R AT NEWPORT, WA
+ HUNGRY HORSE (STORAGE CHANGE)
+ FLATHEAD LAKE (STORAGE CHANGE)
+ NOXON RAPIDS (STORAGE CHANGE
+ PEND OREILLE LAKE (STORAGE CHANGE)
+ PRIEST LAKE (STORAGE CHANGE)

PRIEST R NR PRIEST R, ID
+ PRIEST LAKE (STORAGE CHANGE)

COEUR D'ALENE R AT ENAVILLE, ID - No Corrections

ST. JOE R AT CALDER, ID - No Corrections

SPOKANE R NR POST FALLS, ID
+ COEUR D'ALENE LAKE (STORAGE CHANGE)

SPOKANE R AT LONG LAKE, WA
+ COEUR D'ALENE LAKE (STORAGE CHANGE)
+ LONG LAKE, WA (STORAGE CHANGE)

Clearwater River Basin

DWORSHAK RESERVOIR INFLOW, ID
+ DWORSHAK RESV (STORAGE CHANGE)
- CLEARWATER R AT OROFINO, ID
+ CLEARWATER R NR PECK, ID

LOCHSA RIVER NR LOWELL - No Corrections

SELWAY RIVER NR LOWELL - No Corrections

CLEARWATER R AT OROFINO, ID - No Corrections

CLEARWATER R AT SPALDING, ID
+ DWORSHAK RESV (STORAGE CHANGE)

Salmon River Basin

SALMON R AT SALMON, ID - No Corrections

SALMON R AT WHITE BIRD, ID - No Corrections

Weiser, Payette, Boise River Basins

WEISER R NR WEISER, ID - No Corrections

SF PAYETTE R AT LOWMAN, ID - No Corrections

DEADWOOD RESERVOIR INFLOW, ID
+ DEADWOOD R BLW DEADWOOD RESV NR LOWMAN
+ DEADWOOD RESV (STORAGE CHANGE)

LAKE FORK PAYETTE RIVER NR MCCALL, ID – No Corrections

NF PAYETTE R AT CASCADE, ID
+ CASCADE RESV (STORAGE CHANGE)

NF PAYETTE R NR BANKS, ID
+ CASCADE RESV (STORAGE CHANGE)

PAYETTE R NR HORSESHOE BEND, ID
+ DEADWOOD RESV (STORAGE CHANGE)
+ CASCADE RESV (STORAGE CHANGE)

BOISE R NR TWIN SPRINGS, ID - No Corrections

SF BOISE R AT ANDERSON RANCH DAM, ID
+ ANDERSON RANCH RESV (STORAGE CHANGE)

BOISE R NR BOISE, ID
+ ANDERSON RANCH RESV (STORAGE CHANGE)
+ ARROWROCK RESV (STORAGE CHANGE)
+ LUCKY PEAK RESV (STORAGE CHANGE)

Wood and Lost River Basins

BIG WOOD R AT HAILEY, ID - No Corrections

BIG WOOD R NR BELLEVUE, ID - No Corrections

CAMAS CREEK NEAR BLAINE – No Corrections

BIG WOOD R BLW MAGIC DAM NR RICHFIELD, ID
+ MAGIC RESV (STORAGE CHANGE)

LITTLE WOOD R NR CAREY, ID
+ LITTLE WOOD RESV (STORAGE CHANGE)

BIG LOST R AT HOWELL RANCH NR CHILLY, ID - No Corrections

BIG LOST R BLW MACKAY RESV NR MACKAY, ID
+ MACKAY RESV (STORAGE CHANGE)

LITTLE LOST R BLW WET CK NR HOWE, ID - No Corrections

Upper Snake River Basin

HENRYS FORK NR ASHTON, ID
+ HENRYS LAKE (STORAGE CHANGE)
+ ISLAND PARK RESV (STORAGE CHANGE)

HENRYS FORK NR REXBURG, ID
+ HENRYS LAKE (STORAGE CHANGE)
+ ISLAND PARK RESV (STORAGE CHANGE)
+ DIV FM HENRYS FK BTW ASHTON & ST. ANTHONY, ID
+ DIV FM HENRYS FK BTW ST. ANTHONY & REXBURG, ID
+ GRASSY LAKE (STORAGE CHANGE)

FALLS R ABV YELLOWSTONE CANAL NR SQUIRREL, ID
+ GRASSY LAKE (STORAGE CHANGE)

TETON R ABV SO LEIGH CK NR DRIGGS, ID - No Corrections

TETON R NR ST. ANTHONY, ID
- CROSS CUT CANAL
+ SUM OF DIVERSIONS ABV GAGE

SNAKE R NR MORAN, WY
+ JACKSON LAKE (STORAGE CHANGE)

PALISADES RESERVOIR INFLOW, ID
+ SNAKE R NR IRWIN, ID
+ JACKSON LAKE (STORAGE CHANGE)
+ PALISADES RESV (STORAGE CHANGE)

SNAKE R NR HEISE, ID
+ JACKSON LAKE (STORAGE CHANGE)
+ PALISADES RESV (STORAGE CHANGE)

BLACKFOOT RESVERVOIR INFLOW, ID
+ BLACKFOOT RIVER
+ BLACKFOOT RESERVOIR (STORAGE CHANGE
SNAKE R NR BLACKFOOT, ID
+ PALISADES RESV (STORAGE CHANGE)
+ JACKSON LAKE (STORAGE CHANGE)
+ DIV FM SNAKE R BTW HEISE AND SHELLY GAGES
+ DIV FM SNAKE R BTW SHELLY AND BLACKFT, ID
PORTNEUF R AT TOPAZ, ID - No Corrections
AMERICAN FALLS RESERVOIR INFLOW, ID
+ SNAKE RIVER AT NEELEY
+ ALL CORRECTIONS MADE FOR HENRYS FK NR REXBURG, ID
+ JACKSON LAKE (STORAGE CHANGE)
+ PALISADES RESV (STORAGE CHANGE)
+ DIV FM SNAKE R BTW HEISE AND SHELLY GAGES
+ DIV FM SNAKE R BTW SHELLY AND BLACKFT GAGES

Southside Snake River Basins

OAKLEY RESERVOIR INFLOW, ID
+ GOOSE CK ABV TRAPPER CK NR OAKLEY, ID
+ TRAPPER CK NR OAKLEY, ID
SALMON FALLS CK NR SAN JACINTO, NV - No Corrections
BRUNEAU R NR HOT SPRINGS, ID - No Corrections
OWYHEE R NR GOLD CK, NV
+ WILDHORSE RESV (STORAGE CHANGE)
OWYHEE R NR OWYHEE, NV
+ WILDHORSE RESV (STORAGE CHANGE)
OWYHEE R NR ROME, OR – No Corrections
OWYHEE RESERVOIR INFLOW, OR
+ OWYHEE R BLW OWYHEE DAM, OR
+ OWYHEE RESV (STORAGE CHANGE)
+ DIV TO NORTH AND SOUTH CANALS
SUCCOR CK NR JORDAN VALLEY, OR - No Corrections
SNAKE R - KING HILL, ID - No Corrections
SNAKE R NR MURPHY, ID - No Corrections
SNAKE R AT WEISER, ID - No Corrections
SNAKE R AT HELLS CANYON DAM, ID
+ BROWNLEE RESV (STORAGE CHANGE)

Bear River Basin

BEAR R NR RANDOLPH, UT
+ SULPHUR CK RESV (STORAGE CHANGE)
+ CHAPMAN CANAL DIVERSION
+ WOODRUFF NARROWS RESV (STORAGE CHANGE)
SMITHS FORK NR BORDER, WY - No Corrections
THOMAS FORK NR WY-ID STATELINE - No Corrections (Disc)
BEAR R BLW STEWART DAM, ID
+ SULPHUR CK RESV (STORAGE CHANGE)
+ CHAPMAN CANAL DIVERSION
+ WOODRUFF NARROWS RESV (STORAGE CHANGE)
+ DINGLE INLET CANAL
+ RAINBOW INLET CANAL
MONTPELIER CK AT IRR WEIR NR MONTPELIER, ID (Disc)
+ MONTPELIER CK RESV (STORAGE CHANGE)
CUB R NR PRESTON, ID - No Corrections

RESERVOIR CAPACITY DEFINITIONS (Units in 1,000 acre-feet, KAF)
Different agencies use various definitions when reporting reservoir capacity and contents. Reservoir storage terms include dead, inactive, active, and surcharge storage. This table lists these volumes for each reservoir, and defines the storage volumes NRCS uses when reporting capacity and current reservoir storage. In most cases, NRCS reports usable storage, which includes active and inactive storage. (Revised January 2002)

BASIN/ RESERVOIR	DEAD STORAGE	INACTIVE STORAGE	ACTIVE STORAGE	SURCHARGE STORAGE	NRCS CAPACITY	NRCS CAPACITY INCLUDES
PANHANDLE REGION						
HUNGRY HORSE	39.73	--	3451.00	--	3451.0	ACTIVE
FLATHEAD LAKE	Unknown	--	1791.00	--	1971.0	ACTIVE
NOXON RAPIDS	Unknown	--	335.00	--	335.0	ACTIVE
PEND OREILLE	406.20	112.40	1042.70	--	1561.3	DEAD+INACTIVE+ACTIVE
COEUR D'ALENE	--	13.50	225.00	--	238.5	INACTIVE+ACTIVE
PRIEST LAKE	20.00	28.00	71.30	--	119.3	DEAD+INACTIVE+ACTIVE
CLEARWATER BASIN						
DWORSHAK	--	1452.00	2016.00	--	3468.0	INACTIVE+ACTIVE
WEISER/BOISE/PAYETTE BASINS						
MANN CREEK	1.61	0.24	11.10	--	11.1	ACTIVE
CASCADE	--	46.70	646.50	--	693.2	INACTIVE+ACTIVE
DEADWOOD	--	--	164.00	--	164.0	ACTIVE
ANDERSON RANCH	24.90	37.00	413.10	--	450.1	INACTIVE+ACTIVE
ARROWROCK	--	--	272.20	--	272.2	ACTIVE
LUCKY PEAK	--	28.80	264.40	13.80	293.2	INACTIVE+ACTIVE
LAKE LOWELL	7.90	5.80	159.40	--	165.2	INACTIVE+ACTIVE
WOOD/LOST BASINS						
MAGIC	--	--	191.50	--	191.5	ACTIVE
LITTLE WOOD	--	--	30.00	--	30.0	ACTIVE
MACKAY	0.13	--	44.37	--	44.4	ACTIVE
UPPER SNAKE BASIN						
HENRYS LAKE	--	--	90.40	--	90.4	ACTIVE
ISLAND PARK	0.40	--	127.30	7.90	135.2	ACTIVE+SURCHARGE
GRASSY LAKE	--	--	15.18	--	15.2	ACTIVE
JACKSON LAKE	--	--	847.00	--	847.0	ACTIVE
PALISADES	44.10	155.50	1200.00	--	1400.0	DEAD+INACTIVE+ACTIVE
RIRIE	4.00	6.00	80.54	10.00	80.5	ACTIVE
BLACKFOOT	--	--	348.73	--	348.7	ACTIVE
AMERICAN FALLS	--	--	1672.60	--	1672.6	ACTIVE
SOUTHSIDE SNAKE BASINS						
OAKLEY	--	--	74.50	--	74.5	ACTIVE
SALMON FALLS	48.00	--	182.65	--	182.6	ACTIVE
WILDHORSE	--	--	71.50	--	71.5	ACTIVE
OWYHEE	406.83	--	715.00	--	715.0	ACTIVE
BROWNLEE	0.45	444.00	975.30	--	1419.3	INACTIVE+ACTIVE
BEAR RIVER BASIN						
WOODRUFF NARROWS	--	1.50	57.30	--	57.3	ACTIVE
WOODRUFF CREEK	--	4.00	4.00	--	4.0	ACTIVE
BEAR LAKE	--	--	1421.00	--	1421.0	ACTIVE
MONTPELIER CREEK	0.21	--	3.84	--	4.0	DEAD+ACTIVE

Interpreting Streamflow Forecasts

Introduction
Each month, five forecasts are issued for each forecast point and each forecast period. Unless otherwise specified, all streamflovv forecasts are for streamflow volumes that would occur naturally without any upstream influences. Water users need to know what the different forecasts represent if they are to use the information correctly when making operational decisions. The following is an explanation of each of the forecasts.

Most Probable (50 Percent Chance of Exceeding) Forecast. This forecast is the best estimate of streamflow volume that can be produced given current conditions and based on the outcome of similar past situations, There is a 50 percent chance that the streamflow volume will exceed this forecast value. There is a 50 percent chance that the streamflow volume will be less than this forecast value.

The most probable forecast will rarely be exactly right, due to errors resulting from future weather conditions and the forecast equation itself. This does not mean that users should not use the most probable forecast; it means that they need to evaluate existing circumstances and determine the amount of risk they are willing to take by accepting this forecast value.

To Decrease the Chance of Having Too Little Water
If users want to make sure there is enough water available for their operations, they might determine that a 50 percent chance of the streamflow volume being lower than the most probable forecast is too much risk to take. To reduce the risk of not having enough water available during the forecast period, users can base their operational decisions on one of the forecasts with a greater chance of being exceeded (or possibly some point in-between). These include:

70 Percent Chance of Exceeding Forecast. There is a 70 percent chance that the streamflow volume will exceed this forecast value.
There is a 30 percent chance the streamflow volume will be less than this forecast value.
90 Percent Chance of Exceeding Forecast. There is a 90 percent chance that the streamflow volume will exceed this forecast value.
There is a 10 percent chance the streamflow volume will be less than this forecast value.

To Decrease the Chance of Having Too Much Water
If users want to make sure they don't have too much water, they might determine that a 50 percent chance of the streamflow being higher than the most probable forecast is too much of a risk to take. To reduce the risk of having too much water available during the forecast period, users can base their operational decisions on one of the forecasts with a smaller chance of being exceeded. These include:

30 Percent Chance of Exceeding Forecast. There is a 30 percent chance that the streamflow volume will exceed this forecast value. There is a 70 percent chance the streamflow volume will be less than this forecast value.
10 Percent Chance of Exceeding Forecast. there is a 10 percent chance that the streamflow volume will exceed this forecast value. There is a 90 percent chance the streamflow volume will be less than this forecast value.

Using the forecasts - an example

Using the Most Probable Forecast. Using the example forecasts shown below, users can reasonably expect 36,000 acre-feet to flow past the gaging station on the Mary's River near Death between March I and July 31.

Using the Higher Exceedence Forecasts. If users anticipate a somewhat drier trend in the future (monthly and seasonal weather outlooks are available from the National Weather Service every two weeks), or if they are operating at a level where an unexpected shortage of water could cause problems, they might want to plan on receiving only 20,000 acre-feet (from the 70 percent chance of exceeding forecast). In seven out of ten years with similar conditions, streamflow volumes will exceed the 20,000 acre-foot forecast.

If users anticipate extremely dry conditions for the remainder of the season, or if they determine the risk of using the 70 percent chance of exceeding forecast is too great, then they might plan on receiving only 5000 acre-feet (from the 90 percent chance of exceeding forecast). Nine out of ten years with similar conditions, streamflow volumes will exceed the 5000 acre-foot forecast.

Using the Lower Exceedance Forecasts. If users expect wetter future conditions, or if the chance that five out of every ten years with similar conditions would produce streamflow volumes greater than 36,000 acre-feet was more than they would like to risk, they might plan on receiving 52,000 acre-feet (from the 30 percent chance of exceeding forecast) to minimize potential flooding problems. Three Out of ten years with similar conditions, streamflows will exceed the 52,000 acre-foot forecast.

In years when users expect extremely wet conditions for the remainder of the season and the threat of severe flooding and downstream damage exists, they might choose to use the 76,000 acre-foot (10 percent chance of exceeding) forecast for their water management operations. Streamflow volumes will exceed this level only one year out of ten.

WEISER, PAYETTE, BOISE RIVER BASINS
Streamflow Forecasts

Forecast Point	Forecast Period	<<====== Drier ====== Future Conditions ======= Wetter =====>> Chance Of Exceeding * 90% (1000AF)	70% (1000AF)	50% (Most Probable) (1000AF)	(% AVG.)	30% (1000AF)	10% (1000AF)	30-Yr Avg. (1000AF)
SF PAYETTE RIVER at Lowman	APR-JUL	329	414	471	109	528	613	432
	APR-SEP	369	459	521	107	583	673	488
BOISE RIVER near Twin Springs (1)	APR-JUL	443	610	685	109	760	927	631
	APR-SEP	495	670	750	109	830	1005	

For more information concerning streamflow forecasting ask your local NRCS field office for a copy of "A Field Office Guide for Interpreting Streamflow Forecasts" or visit our Web page.

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